



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2011-1419; Directorate Identifier 2010-NM-281-AD; Amendment 39-17297; AD 2012-26-02]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding an existing airworthiness directive (AD) for certain The Boeing Company Model 737-300, -400, and -500 series airplanes. That AD currently requires repetitive inspections for cracking of the crown area of the fuselage skin, and corrective actions if necessary. This new AD adds repetitive inspections for cracking using different inspection methods and inspecting additional areas, and corrective actions if necessary. This new AD also requires additional repairs to previously repaired areas and repetitive inspections for loose fasteners and replacement if necessary in certain previously repaired areas. This AD also reduces certain compliance times and extends certain other compliance times. This AD was prompted by additional reports of cracking at the horizontal chem-mill steps away from the lap joints over the entire crown area, and vertical chem-mill cracks adjacent to the butt joints. We are issuing this AD to detect and correct fatigue cracking of the fuselage skin, which could cause the fuselage skin to fracture and fail, and result in rapid decompression of the airplane.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of August 1, 2005 (70 FR 36821, June 27, 2005).

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Wayne Lockett, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: (425) 917-6447; fax: (425) 917-6590; email: wayne.lockett@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005). That AD applies to the specified products. The NPRM published in the Federal Register on January 19, 2012 (77 FR 2669). That NPRM proposed to continue to require repetitive inspections for cracking of the crown area of the fuselage skin, and corrective actions if necessary. That NPRM also proposed to add repetitive inspections for cracking using different inspection methods and would inspect additional areas, and corrective actions if necessary. That NPRM also proposed to require additional repairs to previously repaired areas and repetitive inspections for loose fasteners and replacement if necessary in certain previously repaired areas. That NPRM also proposed to reduce certain compliance times and extend certain other compliance times.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal (77 FR 2669, January 19, 2012) and the FAA's response to each comment.

Concurrence with NPRM (77 FR 2669, January 19, 2012)

The National Transportation Safety Board stated that it fully supports the NPRM (77 FR 2669, January 19, 2012).

Request to Correct References to Repair Instructions

Boeing asked that we revise the NPRM (77 FR 2669, January 19, 2012) to correct references to certain repair instructions. Boeing stated that paragraph (n)(2)(iii) of the NPRM specifies converting the time-limited repair into a permanent repair by doing the permanent repair specified in paragraph (n)(1) of the NPRM. Boeing noted that paragraph (n)(1) of the NPRM specifies installing a permanent repair in accordance with

“Part 2” of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010; however, Part 2 does not give instructions for changing the time-limited repair to a permanent repair. Boeing stated that paragraph (t)(2) of the NPRM also incorrectly refers to converting the time-limited repair into a permanent repair by doing the permanent repair specified in paragraph (n)(1) of the NPRM.

Boeing stated that the correct instructions for converting the time-limited repair to a permanent repair are specified in Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, and added that paragraphs (n)(2)(iii) and (t)(2) of the NPRM (77 FR 2669, January 19, 2012) should specify doing the permanent repair in accordance with Part 4 of the Accomplishment Instructions of that service information.

We agree that the reference to paragraph (n)(1) of this AD for doing the permanent repair identified in paragraphs (n)(2)(iii) and (t)(2) of this AD is incorrect. We have changed paragraph (n)(2)(iii) of this AD to specify doing the permanent repair in accordance with Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010. In addition, we have changed paragraph (t)(2) of this AD to refer to paragraph (t)(3) of this AD for the permanent repair. Paragraph (t)(3) of this AD specifies doing the permanent repair in accordance with paragraph 3.B.4. (i.e., Part 4) of the service information.

Request to Remove Certain Terminating Action

Boeing asked that we delete the last sentence in paragraph (t)(1) of the NPRM (77 FR 2669, January 19, 2012), which specified that installation of internal tear strap doublers would terminate the inspections required by paragraph (m) of the NPRM. Boeing stated that this sentence is not necessary because there are no inspection

requirements in paragraph (m) of the NPRM for the areas covered by permanent repairs installed without tear strap doublers.

We agree with the commenter for the reason provided. We have deleted the referenced sentence in paragraph (t)(1) of this AD.

Request to Add Certain Terminating Action Language

Southwest Airlines (SWA) asked that we add language to paragraphs (n) and (s) of the NPRM (77 FR 2669, January 19, 2012), specifying that repairs installed in accordance with paragraphs (n) and (s) of the NPRM terminate the inspections required by paragraphs (m), (o), (p), and (q) of the NPRM.

We partially agree with the commenter's request. The repetitive inspections may be terminated after a time-limited or permanent repair has been installed, for the repaired area only. We note that paragraph (n) of this AD specifies that doing a permanent repair terminates the inspections specified in paragraph (m) of this AD for the repaired area only. We also note that paragraph (n) of this AD does not terminate paragraphs (o), (p), and (q) of this AD. Accomplishing paragraph (s) of this AD terminates the inspections required by paragraphs (o), (p), and (q) of this AD. We have changed paragraph (s) of this AD accordingly.

Request to Include Additional Service Information

SWA asked that we include the internal inspection procedure specified in Boeing 737 Nondestructive Test (NDT) Manual, Part 6, Chapter 53-30-20, as an acceptable method for accomplishing the inspections in areas covered by non-terminating repairs as required by paragraphs (m), (o), (p), and (q) of the NPRM (77 FR 2669, January 19, 2012). SWA stated that the inspection procedure in the NDT manual has been previously approved as an alternative inspection method for paragraph (s) of AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005), in areas covered by an existing

repair that do not meet the terminating repair specified in the compliance tables in Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010.

We disagree with the commenter's request. Operators may submit a request for approval of an alternative method of compliance (AMOC) to use the inspection procedure specified in the NDT manual for accomplishing the inspections in areas covered by non-terminating repairs, as specified in paragraph (x) of this AD. We have not changed this AD in this regard.

Request to Change Compliance Time

SWA asked that we change the compliance time for the inspections proposed by paragraphs (g), (m), (o), (p), and (q) of the NPRM (77 FR 2669, January 19, 2012) from "total flight cycles" to "flight cycles since panel replacement" for airplanes on which fuselage crown skin panels that were replaced in accordance with Boeing Service Bulletin 737-53-1306, dated September 22, 2010; Revision 1, dated March 17, 2011; or Revision 2, dated October 25, 2011. SWA stated that this modification replaces crown skin panels with new skin panels, and the new skin panels should have a threshold "from panel replacement," and not "total airplane cycles." SWA added that accomplishing Boeing Service Bulletin 737-53-1306, original issue, Revision 1, or Revision 2 has been approved previously as an AMOC to certain requirements in multiple ADs; including AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005), which is being superseded by the NPRM. SWA stated that the AMOC provides approval for changes in compliance time from total flight cycles to cycles since panel replacement.

We do not agree with the commenter's request to change paragraphs (g), (m), (o), (p), and (q) of this AD. The existing AMOC discussed by the commenter is approved for the restated requirements of this AD, including paragraph (g) of this AD. Due to the extent of the replacement specified in Boeing Service Bulletin 737-53-1306, dated September 22, 2010; Revision 1, dated March 17, 2011; or Revision 2, dated October 25,

2011, and the number of ADs that affect that replacement, we have determined that clarification of the AMOCs for all these ADs should be provided in a separate AMOC letter. This will ensure that multiple parties (e.g., Flight Standards, Maintenance Repair and Overhaul facilities (MROs), and operators) have access to the approval information for the replacement in one document. We have made no change to this AD in this regard.

Request for Alternate Option for Inspections

SWA asked that we revise the NPRM (77 FR 2669, January 19, 2012) to allow the inspections in paragraph (w) of the NPRM as an alternate option for the permanent repairs required by paragraph (t) of the NPRM for airplanes on which internal tear strap doublers were not installed. SWA stated that permanent repairs installed in accordance with Boeing Special Attention Service Bulletin 737-53-1234, dated June 13, 2001; or Revision 1, dated March 31, 2005; have been evaluated and determined to meet the damage tolerance requirements of part 26 of the Federal Aviation Regulations (14 CFR Part 26), as indicated in Figure 41 of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010. SWA added that accomplishing the post-repair inspections in accordance with Figure 41, at the time specified in Table 7 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, should be considered an alternate option to the requirements in paragraph (t) of the NPRM.

We do not agree with the commenter’s request. The 60,000-flight-cycle threshold for the post-repair inspection addresses the critical outer fastener row installed with the repair doubler, and does not address the area of the tear strap doubler installed in accordance with paragraph (t)(1) of this AD. We have made no change to this AD in this regard.

Request to Provide Clarification

SWA asked that we provide clarification whether the notes in paragraph 3.B. of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, are applicable to paragraphs (m), (o), (p), and (q) of the NPRM (77 FR 2669, January 19, 2012).

We agree to provide clarification. The notes specified in paragraph 3.A., “General Information,” and paragraph 3.B., “Work Instructions,” of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, apply to all the sub-paragraphs of the Accomplishment Instructions, including the actions that correspond to the requirements of paragraphs (m), (o), (p), and (q) of this AD. We have made no change to this AD in this regard.

Explanation of Change to This AD

We have revised the heading for and the wording in paragraph (l) of this AD; this change has not changed the intent of that paragraph.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously – and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (77 FR 2669, January 19, 2012) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (77 FR 2669, January 19, 2012).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

Costs of Compliance

We estimate that this AD affects 109 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated costs

Action	Labor cost	Cost per product	Cost on U.S. operators
Inspection (retained actions from AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005))	94 work-hours X \$85 per hour = \$7,990	\$7,990 per inspection cycle	\$870,910
New NDI (non-destructive inspection) Inspections (medium frequency eddy current, magneto optical imaging, C-scan, or ultrasonic phased array)	Up to 390 work-hours X \$85 per hour = \$33,150	Up to \$33,150 per inspection cycle	Up to \$3,613,350
Install internal tear strap doublers (for airplanes on which permanent repair was already done)	Up to 30 work-hours X \$85 per hour = \$2,550	Up to \$2,550	Up to \$277,950
Inspection for loose fasteners (for airplanes on which temporary repair was already done) ¹	1 work-hour X \$85 per hour = \$85	\$85	\$9,265
Install permanent repair (for airplanes on which temporary repair was already done) ¹	Up to 48 work-hours X \$85 per hour = \$4,080	Up to \$4,080	Up to \$444,720
Inspection adjacent to lap joint repair ¹	3 work-hours X \$85 per hour = \$255	\$255	\$27,795

¹The cost for this action is for one typical repair only.

We estimate the following costs to do any necessary repairs that would be required based on the results of the inspection. We have no way of determining the number of aircraft that might need these repairs:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Repair ¹	209 work-hours X \$85 per hour = \$17,765	None	\$17,765

¹Repair cost estimate is for one typical repair only.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005), and adding the following new AD:

2012-26-02 The Boeing Company: Amendment 39-17297; Docket No. FAA-2011-1419; Directorate Identifier 2010-NM-281-AD.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005).

(c) Applicability

This AD applies to The Boeing Company Model 737-300, -400, and -500 series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by reports of cracking at the horizontal chem-mill steps away from the lap joints over the entire crown area, and vertical chem-mill cracks adjacent to the butt joints. We are issuing this AD to detect and correct fatigue cracking of the fuselage skin, which could cause the fuselage skin to fracture and fail, and result in rapid decompression of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Retained Initial Inspections

This paragraph restates the requirements of paragraph (g) of AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005). At the later of the times specified in paragraphs (g)(1) and (g)(2) of this AD, perform detailed and eddy current inspections for cracking of the crown area of the fuselage skin in accordance with Part 1, including the “Note,” of the Work Instructions of Boeing Special Attention Service Bulletin 737-53-1234, Revision 1, dated March 31, 2005, except as provided by paragraph (j) of this AD. Doing the inspections required by paragraph (m) of this AD terminates the inspections required by this paragraph for the corresponding inspection areas.

(1) Before the accumulation of the applicable total flight cycles specified in the “Threshold” column of Table 1 of Figure 1 of Boeing Special Attention Service Bulletin 737-53-1234, Revision 1, dated March 31, 2005.

(2) Within 4,500 flight cycles after August 1, 2005 (the effective date of AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005)).

(h) Retained Repetitive Inspections

This paragraph restates the requirements of paragraph (h) of AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005). Repeat either the detailed or eddy current inspections specified in paragraph (g) of this AD at the applicable intervals specified in paragraph (h)(1) or (h)(2) of this AD until paragraph (i)(1) or (i)(2) of this AD has been done, as applicable. Doing the inspection required by paragraph (m) of this AD terminates the inspections required by this paragraph for the corresponding inspection area.

(1) Repeat the detailed inspections thereafter at intervals not to exceed 1,200 flight cycles.

(2) Repeat the eddy current inspections thereafter at intervals not to exceed 3,000 flight cycles.

(i) Retained Permanent or Time-Limited Repair for Cracking Found During Inspections

This paragraph restates the requirements of paragraph (i) of AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005). If any cracking is found during any inspection required by paragraph (g) or (h) of this AD, do the actions specified in paragraph (i)(1) or (i)(2) of this AD, in accordance with Boeing Special Attention Service Bulletin 737-53-1234, Revision 1, dated March 31, 2005, except as provided by paragraphs (j) and (k) of this AD.

(1) Before further flight, do a permanent repair (including related investigative actions and applicable corrective actions) in accordance with Part 2 of the Work

Instructions of Boeing Special Attention Service Bulletin 737-53-1234, Revision 1, dated March 31, 2005. Doing a permanent repair ends the repetitive inspections required by paragraph (h) of this AD for the repaired area only.

(2) Do the actions specified in paragraphs (i)(2)(i) and (i)(2)(ii) of this AD at the time specified in the applicable paragraph. Doing a time-limited repair ends the repetitive inspections required by paragraph (h) of this AD for the repaired area only.

(i) Before further flight, do a time-limited repair (including related investigative actions and applicable corrective actions) in accordance with Part 3 of the Work Instructions of Boeing Special Attention Service Bulletin 737-53-1234, Revision 1, dated March 31, 2005.

(ii) At the times specified in Figure 8 of Boeing Special Attention Service Bulletin 737-53-1234, Revision 1, dated March 31, 2005, do the related investigative and corrective actions in accordance with Part 3 of the Work Instructions of Boeing Special Attention Service Bulletin 737-53-1234, Revision 1, dated March 31, 2005.

(j) Retained Provision for Repair per FAA

This paragraph restates the requirements of paragraph (j) of AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005). Where Boeing Special Attention Service Bulletin 737-53-1234, Revision 1, dated March 31, 2005, specifies to contact Boeing for appropriate action: Before further flight, repair according to a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or according to data meeting the certification basis of the airplane approved by an Authorized Representative for the Boeing Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings; or using a method approved in accordance with the procedures specified in paragraph (x) of this AD. For a repair method to be approved, the approval must specifically reference this AD.

(k) Retained Provision, Reporting Not Required

This paragraph restates the provisions of paragraph (k) of AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005). Although Boeing Special Attention Service Bulletin 737-53-1234, Revision 1, dated March 31, 2005, specifies reporting certain information to Boeing, this AD does not require that action.

(l) Retained Credit for Previous Actions

This paragraph restates the requirements of paragraph (l) of AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005). Actions done before August 1, 2005, in accordance with Boeing Special Attention Service Bulletin 737-53-1234, dated June 13, 2002 (which is not incorporated by reference in this AD), are acceptable for compliance with the corresponding actions required by paragraphs (g), (h), and (i) of this AD.

(m) New Fuselage Skin Inspections at Chem-mill Steps Common to Lap Joints

Except as provided by paragraph (v)(1) of this AD, at the applicable time specified in Tables 1 and 2 of paragraph 1.E, "Compliance," of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010: Do a non-destructive inspection (NDI) (medium frequency eddy current, magneto optical imaging, C-scan, or ultrasonic phased array) for horizontal chem-mill cracking above the S-4 and S-10 lap joints, in accordance with paragraph 3.B.1.a. of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, except as provided by paragraph (r) of this AD. Repeat the applicable inspections thereafter at intervals not to exceed those specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010. Accomplishment of the inspections required by this paragraph terminates the requirements of paragraphs (g) and (h) of this AD for the corresponding inspection areas.

Note 1 to paragraph (m) of this AD: Option 1 of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, specifies doing one of the

following NDI: Medium frequency eddy current inspection, magneto optical imaging inspection, or C-scan inspection. Option 2 specifies doing one NDI - an external ultrasonic phased array inspection. These options have different compliance times after the initial inspection.

(n) New Permanent or Time-Limited Repair for Cracking Found During Inspections Required by Paragraph (m) of This AD

If any cracking is found during any inspection required by paragraph (m) of this AD, do the actions specified in paragraph (n)(1) or (n)(2) of this AD.

(1) Before further flight, do a permanent repair, including related investigative actions and applicable corrective actions, in accordance with Part 2 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, except as provided by paragraph (v)(2) of this AD. Doing a permanent repair ends the repetitive inspections required by paragraph (m) of this AD for the repaired area only.

(2) Do the actions specified in paragraphs (n)(2)(i), (n)(2)(ii), and (n)(2)(iii) of this AD at the time specified in the applicable paragraph. Doing a time-limited repair ends the repetitive inspections required by paragraph (m) of this AD for the repaired area only.

(i) Before further flight, do a time-limited repair, including related investigative actions and applicable corrective actions, in accordance with Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, except as provided by paragraph (v)(2) of this AD.

(ii) Within 3,000 flight cycles after the time-limited repair was installed as specified in paragraph (n)(2)(i) of this AD, or within 500 flight cycles after the effective date of this AD, whichever occurs later, do a detailed inspection for loose fasteners, in accordance with Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010. Repeat the inspection

thereafter at intervals not to exceed 3,000 flight cycles until the permanent repair required by paragraph (n)(2)(iii) of this AD is done. If any loose fasteners are found, before further flight, replace the fasteners with new fasteners of the same type and size, as specified in Figures 6, 35, and 36 of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010.

(iii) Within 6,000 flight cycles after the time-limited repair was installed, as specified in paragraph (n)(2)(i) of this AD, do the permanent repair, in accordance with Part 4 of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, except as provided by paragraph (v)(2) of this AD.

(o) New Fuselage Skin Inspections at Chem-mill Steps Common to Shear Wrinkle Areas

Except as provided by paragraph (v)(1) of this AD, at the applicable time specified in Table 3 of paragraph 1.E, “Compliance,” of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010: Do an NDI (medium frequency eddy current, magneto optical imaging, C-scan, or ultrasonic phased array) for horizontal chem-mill cracking in the shear wrinkle areas, in accordance with paragraph 3.B.1.b of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010. Repeat the applicable inspections thereafter at intervals not to exceed those specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010.

(p) New Fuselage Skin Inspections at Specified Vertical Chem-mill Step Locations

Except as provided by paragraph (v)(1) of this AD, at the applicable time specified in Table 4 of paragraph 1.E, “Compliance,” of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010: Do an NDI (medium frequency eddy current, magneto optical imaging, C-scan, or ultrasonic phased array) for vertical chem-mill cracking at locations specified in, and in accordance with paragraph 3.B.1.c. of

the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010. Repeat the applicable inspections thereafter at intervals not to exceed those specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010.

(q) New Fuselage Skin Inspections at Chem-mill Steps in General Pocket-to-Pocket Areas

Except as provided by paragraph (v)(1) of this AD, at the applicable time specified in Tables 5 and 6 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010: Do an NDI (medium frequency eddy current, magneto optical imaging, C-scan, or ultrasonic phased array) for horizontal chem-mill cracking in general pocket-to-pocket areas at specified locations in and in accordance with paragraphs 3.B.1.d., 3.B.1.e., and 3.B.1.f., as applicable, of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010. Repeat the applicable inspections thereafter at intervals not to exceed those specified in Tables 5 and 6 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010.

(r) New Inspection Exception

For inspections required by paragraph (m) of this AD: It is not necessary to inspect the chem-mill steps under an existing repair installed using Boeing Special Attention Service Bulletin 737-53-1234, dated June 13, 2002 (which is not incorporated by reference in this AD); or Revision 1, dated March 31, 2005.

(s) New Repair of Cracking Found During Inspections Required by Paragraphs (o) through (q) of this AD

If any crack is found during any inspection required by paragraph (o), (p), or (q) of this AD, before further flight, repair the crack using a method approved in accordance with the procedures specified in paragraph (x) of this AD. Doing this repair ends the

repetitive inspections required by paragraphs (o), (p), and (q) of this AD for the repaired area only.

(t) New Actions for Airplanes on Which Repairs Have Been Done Using Previous Service Information

(1) For airplanes on which permanent repairs have been done as specified in Boeing Special Attention Service Bulletin 737-53-1234, dated June 13, 2002 (which is not incorporated by reference in this AD); or Revision 1, dated March 31, 2005; except airplanes on which internal tear strap doublers were previously installed using a repair plan approved using the procedures specified in paragraph (x) of this AD: Within 6,000 flight cycles after the effective date of this AD, install internal tear strap doublers, in accordance with paragraph 3.B.3. of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, except as provided by paragraph (v)(2) of this AD.

(2) For airplanes on which time-limited repairs have been installed as specified in Boeing Special Attention Service Bulletin 737-53-1234, dated June 13, 2002 (which is not incorporated by reference in this AD); or Revision 1, dated March 31, 2005; except airplanes on which the permanent repair has been installed before the effective date of this AD as specified in Boeing Special Attention Service Bulletin 737-53-1234, dated June 13, 2002 (which is not incorporated by reference in this AD); or Revision 1, dated March 31, 2005: Within 3,000 flight cycles after the time limited repair is installed, or within 500 flight cycles after the effective date of the AD, whichever occurs later, do a detailed inspection for loose fasteners, in accordance with paragraph 3.B.4. of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010. Repeat the inspection thereafter at intervals not to exceed 3,000 flight cycles until the permanent repair is installed in accordance with paragraph (t)(3) of this AD. If any loose fasteners are found, before further flight, replace the fasteners with new fasteners of the same type and size, as specified in Figures 6, 35,

and 36, as applicable, of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010.

(3) For airplanes on which time-limited repairs have been installed as specified in Boeing Special Attention Service Bulletin 737-53-1234, dated June 13, 2002 (which is not incorporated by reference in this AD); or Revision 1, dated March 31, 2005; except airplanes on which the permanent repair has been installed before the effective date of this AD as specified in Boeing Special Attention Service Bulletin 737-53-1234, dated June 13, 2002, or Revision 1, dated March 31, 2005; before the effective date of this AD: Within 6,000 flight cycles after the time-limited repair is installed, or within 1,000 flight cycles after the effective date of this AD, whichever occurs later, make the repair permanent by replacing the blind fasteners in the time-limited repair with solid rivets, and install internal tear strap doublers, in accordance with paragraph 3.B.4. of the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, except as provided by paragraph (v)(2) of this AD.

(u) New Action Not in Accomplishment Instructions of Service Information

If any crack is found after the time-limited or permanent repair is installed, and Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, specifies to contact Boeing for appropriate action: Before further flight, repair the crack using a method approved in accordance with the procedures specified in paragraph (x) of this AD.

(v) Exceptions to Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010

(1) Where paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, specifies a compliance time relative to the “release of Revision 2 of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, specifies to contact Boeing for appropriate action: Before further flight, repair the cracking using a method approved in accordance with the procedures specified in paragraph (x) of this AD.

(3) Although Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, specifies reporting certain information to Boeing, this AD does not require that action.

(w) Post-repair Inspections Not Required

The post-repair inspection specified in Table 7 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, is not required by this AD.

Note 2 to paragraph (w) of this AD: The damage tolerance inspections specified in Table 7 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, may be used in support of compliance with section 121.1109(c)(2) or 129.109(c)(2) of the Federal Aviation Regulations (14 CFR 121.1109(c)(2) or 14 CFR 129.109(c)(2)). The corresponding actions specified in the Accomplishment Instructions and Figures 40 and 41 of Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010, are not required in this AD.

(x) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle ACO, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section

of this AD. Information may be emailed to:

9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously in accordance with AD 2005-13-27, Amendment 39-14164 (70 FR 36821, June 27, 2005), are approved as AMOCs for the corresponding requirements in this AD.

(y) Related Information

(1) For more information about this AD, contact Wayne Lockett, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: (425) 917-6447; fax: (425) 917-6590; email: wayne.lockett@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(z) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved on [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(i) Boeing Alert Service Bulletin 737-53A1234, Revision 2, dated November 24, 2010.

(ii) Reserved.

(4) The following service information was approved for IBR on August 1, 2005 (70 FR 36821, June 27, 2005).

(i) Boeing Special Attention Service Bulletin 737-53-1234, Revision 1, dated March 31, 2005.

(ii) Reserved.

(5) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>.

(6) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(7) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on December 12, 2012.

Ali Bahrami,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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